

# Why Benchmarking of Factory Utilities Is Key To Unlocking Potential of Energy Efficiency

Canonical: <https://northmoregordon.com/articles/why-benchmarking-of-factory-utilities-is-key-to-unlocking-potential-of-energy-efficiency/>

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# Why Benchmarking of Factory Utilities Is Key To Unlocking Potential of Energy Efficiency

Published: December 19, 2022.

Effective energy efficiency solutions require good data as a foundation. Utility benchmarking should be a top priority because it reveals how a facility's equipment performance compares to peers and industry standards, identifying where improvements are possible. By establishing this baseline understanding first, companies can make informed decisions about which opportunities deserve capital investment and which operating changes will deliver meaningful results. This prevents ad-hoc or poorly targeted spending and ensures resources are directed toward high-impact improvements that align with the facility's actual performance gaps.

Publication context: This article reflects its publication date. Market prices, program rules, reporting duties and deadlines may have changed. Confirm current official guidance before making a decision.

The energy transition is upon us. Scientific evidence and recent global affairs, such as the COVID-19 pandemic and the Russian invasion of Ukraine, stress the importance of establishing a more resilient and sustainable energy economy. Yet with all the buzz around renewables, clean fuel alternatives, and emerging technologies, companies often overlook one of the most economic and reliable pathways to make immediate and meaningful reductions in greenhouse gas ( GHG ) emissions: energy efficiency.

Energy efficiency must be a staple of our transition if we are reach a net zero economy in alignment with the Paris Agreement . In addition to mitigating impacts of climate change, reduced energy demand strengthens energy security by helping companies be less reliant on external sources.

Implementing effective solutions first requires good data. Utility benchmarking should be a top priority for all companies and organizations who wish to advance their decarbonisation efforts and take greater control of their own energy security.

##### The Importance of Utility Benchmarking

Utility benchmarking is something every plant can do without delay and has a number of benefits.

Utility performance can be compared to peers and industry standards . Without utility benchmarking, a company won't know where their performance ranks, much less have insight into opportunities for improvement. This makes utility benchmarking one of the most useful practices for companies wanting to gain a competitive advantage.

Utility performance can be benchmarked across sectors . Because these industrial equipment are widely used across industries, there is ample professional capacity to measure and improve their performance, and support their operation.

Utility benchmarks can be reliably adjusted to climate or operating conditions. Using statistical modelling techniques, companies can compare utility performance across regions by adjusting for significant factors, like operational activity and weather patterns.

#### ##### Example: Compressed Air

This snapshot shows the measured performance of 25 industrial compressed air systems in Singapore. By using measured data, our customers are now informed on:

How they perform relative to their peers

What best practice is, and

How much money they would be able to save if they achieved best practice performance.

#### ##### Need for Widespread Adoption of Utility Benchmarking

Despite the clear advantages of utility benchmarking, most companies don't do it unless compelled to do so by a regulatory requirement. This may be because of the perceived cost of metering, or skepticism about the possible savings. Yet benchmarking opens the door for companies to take advantage of the most economic and effective near-term solution for driving down emissions and energy demand. If wanting to minimise capital investment, companies can choose to use temporary metering, a service Northmore Gordon provides.

Globally, there is a growing trend of implementing building energy codes and industrial energy efficiency standards. For instance, Singapore will require all chilled water systems over 300RT in capacity to meet an energy efficiency standard. Therefore, companies that engage in utility benchmarking and energy efficiency programs will insulate themselves from transition risks associated with this growing regulatory trend.

#### ##### Taking a Comprehensive Approach

It is vital to use a certified energy management team to measure performance accurately and help drive a comprehensive strategy. Northmore Gordon's team of energy experts is available to help companies realise the economic and strategic benefits of utility benchmarking. Our support alleviates stress from companies' internal teams while helping them advance their sustainability program and align their decarbonisation pathway and financial objectives.

#### ## Using this guidance

Check the site's operating conditions, data quality, project stage and current program settings before turning the dated discussion into a scope or investment decision.

#### ## Related guidance

Energy audits

Measurement and verification

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#### ### Why should utility benchmarking be prioritized before implementing energy efficiency solutions?

Effective energy efficiency solutions require good data as a foundation. Utility benchmarking should be a top priority because it reveals how a facility's equipment performance compares to peers and industry standards, identifying where improvements are possible. By establishing this baseline understanding first, companies can make informed decisions about which opportunities deserve capital investment

and which operating changes will deliver meaningful results. This prevents ad-hoc or poorly targeted spending and ensures resources are directed toward high-impact improvements that align with the facility's actual performance gaps.

### How does utility benchmarking help identify optimization opportunities in industrial equipment?

Utility benchmarking compares the performance of equipment such as boilers, refrigeration systems, and compressed-air systems against standard performance metrics and peer facilities. This comparison reveals whether a particular system is underperforming relative to best practice or similar operations. For example, a compressed-air system consuming more power than comparable systems at similar pressures and demand signals a potential leak, control, or sequencing issue. Once the performance gap is identified, targeted investigations can confirm the cause before selecting a remedy, avoiding wasted effort on ineffective measures.

### What makes utility benchmarking reliable across different operating conditions and climates?

Utility benchmarks can be reliably adjusted to account for different climates, operating patterns, and production scales using statistical modelling techniques. These methods isolate the effect of factors like weather, production volume, and operating hours from the underlying equipment efficiency. This adjustment capability means that a facility's performance can be fairly compared to peers even when they operate under different conditions. The reliability of these adjustments allows companies to identify true efficiency gaps rather than confusing performance differences caused by external factors like seasonal demand or temporary production changes.

### What practical barrier prevents most companies from adopting utility benchmarking, and how can Northmore Gordon help?

Most companies avoid utility benchmarking due to perceived costs of metering infrastructure or skepticism about achievable savings. However, capital investment can be minimized by using temporary metering rather than permanent installation. We provide temporary metering services as an alternative approach, allowing facilities to gather benchmarking data without large upfront infrastructure commitments. This lower-cost entry point enables companies to validate the potential for improvements before deciding whether permanent metering and ongoing monitoring justify the investment.

### How does the industrial compressed-air example from Singapore illustrate benchmarking value?

We measured performance data from 25 industrial compressed-air systems in Singapore, providing customers with actionable peer comparisons. The snapshot revealed how each system ranked relative to peers, what best-practice performance looked like, and the potential cost savings available by reaching that standard. This concrete evidence makes the value of benchmarking tangible and comparable: customers could see their specific financial opportunity rather than working from abstract estimates. Such peer-level data creates motivation for investment by showing both the performance gap and the measurable return available.

### Why is utility benchmarking important for managing regulatory transition risk?

A global trend is emerging toward building energy codes and industrial energy efficiency standards. Singapore, for example, will require all chilled-water systems over 300 RT capacity to meet specific efficiency standards. Companies that proactively benchmark their utilities and implement efficiency programs position themselves ahead of regulatory requirements, avoiding costly last-minute compliance retrofits and reputational or operational disruption. Early adoption of benchmarking and efficiency practice provides time for planned improvement rather than reactive crisis response when standards become mandatory.

### What does Northmore Gordon recommend as essential for translating benchmarking data into effective strategy?

Utility benchmarking data alone does not drive improvement; a certified energy management team is vital for measuring performance accurately and translating findings into a comprehensive strategy. We recommend engaging energy experts who can interpret benchmark results, link performance gaps to specific operational or technical causes, prioritize improvement opportunities by cost and feasibility, and guide implementation and verification. This professional assessment ensures that benchmarking insights are connected to decisions about which measures to pursue, in what sequence, with what investment and expected outcome.

### How does utility benchmarking fit into Northmore Gordon's broader assessment methodology?

Utility benchmarking is one component of the Assess stage in our six-stage delivery approach. During Assess, benchmarking works alongside energy audits, forecasting, metering, and monitoring to identify opportunities and reveal missing evidence. This combined approach provides multiple perspectives: benchmarking reveals relative equipment performance, energy audits investigate specific systems or operational issues, and metering establishes baseline conditions for later measurement and verification. Together, these methods build the comprehensive understanding needed before proceeding to feasibility studies or investment decisions.

### What is the relationship between utility benchmarking and the investment case development process?

Benchmarking provides the comparative performance data that informs investment case development. Once benchmarking reveals performance gaps and identifies where best practice offers potential savings, that information becomes input to the business case: it establishes the baseline energy consumption, quantifies the magnitude of opportunity, and helps rank which projects deserve capital among competing options. For equipment decisions such as boiler or compressor replacement, benchmarking confirms whether the existing system is truly underperforming or whether the apparent problem relates to operating conditions. This evidence foundation prevents investment cases built on unverified assumptions.